
केन्द्रीय रेशम जननद्रव्य संसाधन केन्द्र, केन्द्रीय रेशम बोर्ड ,होसूर-635 109
Central Sericultural Germplasm Resources Centre
Central Silk Board, Hosur – 635 109

**MINUTES OF THE 42ND MEETING OF
RESEARCH ADVISORY COMMITTEE HELD ON 24TH FEBRUARY, 2022**

The 42nd meeting of the Research Advisory Committee [RAC] of CSGRC, CSB, Hosur, was convened on 24th February, 2022 through hybrid mode under the chairpersonship of Dr.Chandish R. Ballal, Director (Retd.), National Bureau of Agricultural Insect Resources [ICAR-NBAIR], Bengaluru. The list of participants is appended as **Annexure-I**.

At the outset, Dr. B.T. Sreenivasa, Director, CSGRC, Hosur, welcomed all the participants on behalf of the centre. He welcomed all members of the Research Advisory Committee and invitees to the meeting. He informed the Committee that the review period of the meeting is from July, 2021 to January, 2022 and then requested the Chairperson for her opening remarks.

The Chairperson welcomed all the participants to the 42nd RAC meeting and felt that the Research Advisory Committee of CSGRC is unique as they function as mentors and support the scientists whole-heartedly. She opined that it is extremely important to be well-prepared for the RCC meeting and to have updated information about the research programmes. The scientists of CSGRC have to provide all relevant information to the Director prior to RCC meeting so that the Director can respond to all the queries from the Committee. Further, she expressed her happiness to see the centre responding to challenging situations with a team of dedicated and hard-working scientists led by a committed Director.

Director, CSGRC, Hosur, presented an overview of the activities being carried out at CSGRC during the period under report. The committee appreciated the overall progress

and upkeep of the centre with other developmental activities. The following points were suggested by the committee:

- a) CSGRC to focus on collection of trait-specific mulberry germplasm both from India as well as other countries and obtain exotic collection (EC) number from NBPGR for such accessions.
- b) The number of germplasm registered and number of trait-specific germplasm should be highlighted in future presentations.
- c) Publications should be from work done at CSGRC and publishing papers in predatory journals should be totally avoided. Journals with Thompson Reuters Impact Factor or NAAS rating should always be opted.
- d) The website design should be improved by using less number of colours, while highlighting only the important topics. Other institute/office websites may be referred for updation.
- e) The silkworm database in the website should be updated at the earliest. Full-fledged database information should be updated by the next RAC meeting.
- f) The effort for re-establishment of mulberry museum plot with 14 mulberry species was appreciated.
- g) More training programmes on areas specific to ongoing projects should be facilitated for the young scientists.
- h) Awareness Programmes on Mulberry and silkworm Genetic Resources to be continued for enhanced utilization.

[Action: All concerned]

ITEM NO. I: CONFIRMATION OF MINUTES OF THE 40th MEETING OF RAC HELD ON 23RD AUGUST, 2021

As no comments were received, the House confirmed the minutes of 41st RAC meeting.

ITEM NO. II: REVIEW OF FOLLOW-UP ACTION ON THE DECISIONS TAKEN IN THE 41ST MEETING OF THE RAC HELD ON 23RD AUGUST, 2021

Follow-up action on the decisions/suggestions taken during 41st RAC meeting was presented by Dr. M. Maheswari, Sc-D and following were the suggestions of the RAC:

- 1) Regarding registration of fruit yielding mulberry accessions, it was suggested to raise saplings and establish a plantation at RSRS, Kodathi which would serve as a second location for demonstration as well as multiplication of fruit yielding accessions. The concerned scientist at RSRS, Kodathi would be responsible for development and maintenance of the plantations. Data collection should be done by the concerned scientists of CSGRC in co-ordination with the scientists at RSRS, Kodathi. Once 2 years' data are obtained, the same can be published and then registration of the plant varieties can be taken up.

For Phytochemical analysis/Nutritional profiling of mulberry fruits, the plants should first be raised in different locations and seasons, and then the profiling work can be outsourced after discussion with Research Co-ordination Section, Central Office. The work can be taken up as a regular programme. It was suggested to submit the revised concept note for consideration.

- 2) Comparison of leaf productivity of fruit-yielding varieties vis-a-vis cultivated varieties may be presented.
- 3) Exact plan of action with tentative date of tour and location should be chalked out at the beginning of the year for survey and exploration work and submitted to the Director at the earliest.
- 4) The action taken reports/follow-up action should be precise, specific and quantified.

[Action: All concerned scientists]

ITEM NO. III REVIEW ON THE PROGRESS OF THE ON-GOING RESEARCH PROJECTS

The ongoing research projects of CSGRC, Hosur were reviewed and the following decisions were taken.

1. PIG 06004 SI: Studies on cytological status of mulberry genetic resources.

The Committee appreciated the progress made under the project and advised to publish the newly developed protocol in journals publishing protocols and methods, besides

publishing the research outcome in other peer-reviewed journals. It was also suggested to submit an abstract for oral presentation in the forthcoming international conference being organized by ISC.

[Action: Shri. Raju Mondal, Sc-B]

2. FIG 06005SI- Molecular characterization of mulberry genetic resources for the identification of duplicates and effective utilization

The house advised to check the ploidy level of *Morus indica* accessions for effective analysis of marker data, to collect the allele size and polymorphism of validated primers formulated under the project PIC01003CN from CSRTI, Mysuru. The Committee also suggested to conduct PAGE analysis for identification of duplicates using SSR profiles by utilizing the facility at SBRL, Kodathi with the help of Dr. A. Ramesha, Scientist-C. If necessary, the Scientist/investigator should be deputed for hands on training in PAGE analysis. The purchase of PAGE system may be expedited.

[Action: Dr. M.C. Thriveni, Sc-B]

3. PIT08004: Study on epigenetic and autophagy modifiers on induction of haploid microspore embryogenesis in mulberry

To discuss with Dr. Tanmoy Sarkar, Scientist-C, CSR&TI, Mysore regarding anther culture and also to try Double haploid preparation.

[Action: Shri. Raju Mondal, Sc-B]

4. AIE06002MI-Evaluation of bivoltine silkworm genetic resources for tolerance to abiotic stress in selected hotspots

Extension of the project period was not considered by the house. However, the investigator may take up the pending rearing trials at all the three test centres and submit the concluding project report with thorough statistical analysis. While presenting the data, the original values should be shown in the tables and transformed values can be given in parentheses. The PI should also determine whether log transformation or angular transformation is suitable for the data. Further, it was also suggested to check

the accessions utilized during Phase I and II of AIMSSEP. The outcome of the research project should be published in peer-reviewed journals.

[Action: Dr. M. Maheswari, Sc-D]

5. AIE-06003SI: Evaluation of silkworm genetic resources of *Bombyx mori* with reference to inbreeding depression and their conservation [IX-phase of Collection, Conservation, Characterisation, Evaluation and Utilization of silkworm genetic resources]

After thorough review, house suggested to identify low performers with high IBD% and suggested for rejuvenation. The performance data (IBD%) should be presented in graphical form and the range for high, medium and low inbreeding depression percentage. Highly heritable traits should be considered for calculation of inbreeding depression. After conclusion of the project, the recent 5 years data can be selected and compared with historical data and published.

[Action: Dr. M. Maheswari, Sc-D]

6. AIT-06006MI: Marker-assisted screening to identify silkworm genetic resources tolerant to BmNPV and BmBDV

Complete information on source of the markers and accessions screened along with multi-viral resistant accession layings should be obtained from CSR&TI, Mysore. For bioassay studies, the controls should be selected based on the history of susceptible accessions. The replicated bioassay data should be statistically analysed and to justify the role /work done by the co-investigator from SSTL, Kodathi in the project.

[Action: Dr. Ritwika Sur Chaudhuri, Sc-C]

7. AIG-06007MI: Molecular characterization and assessment of genetic diversity in silkworm (*Bombyx mori*) germplasm

The project was thoroughly reviewed and the house suggested to use Metaphor agarose (High resolution agarose) while using SSR markers or PAGE besides

recommending the revision of project budget for re-sequencing. Accordingly, the investigator may submit the revised budget / project to CO immediately for approval.

[Action: Dr. G. Lokesh, Sc-D]

ITEM NO. : IV REVIEW ON PROGRESS OF CONCLUDED RESEARCH PROJECTS

1) PIE06001SI- Collection, characterization, evaluation, conservation and supply of mulberry genetic resources (IX phase: Nov, 2018- Oct, 2021)

The House reviewed the concluded project and suggested to select the phase-wise top performers and compare the data for significant accessions. The diversity among the exotic accessions can be checked and presented. House also suggested not to compare the accessions data with the hybrid check varieties. It is important to obtain Exotic Collection numbers (EC numbers) for all the exotic accessions. Germplasm Exchange Division, ICAR-NBPGR, New Delhi may be contacted with passport data (if available) to get EC numbers for the existing exotic accessions. This is important even to proceed for publications and registrations. Thorough statistical analysis is required for which CSGRC may take the help of a statistician and submit the concluding project report within March, 2022.

[Action: Dr. G. Thanavendan, Sc-C]

ITEM NO. V: ANY OTHER POINTS WITH THE PERMISSION OF THE CHAIR

1. To collect follow up and feedback from the indenters of germplasm.
2. Scientists should publish research articles in NAAS rated journals.
3. Scientists should be provided exposure/trainings in their areas of research.
4. Scientists should attend national and international conferences and present their research findings.
5. The MGIS database can be improved and linked with the database of NBPGR.
6. More collaborative projects need to be taken up for future research.
7. Budget utilization in the projects is very poor and scientists should focus on proper utilization of allocated budget.

8. More number of accessions should be selected while carrying out germplasm screening studies.
9. Focus should be laid on projects on Non-silk/biomedical applications of silkworm/mulberry.

[Action: All concerned scientists]

Director, B.T. Sreenivasa thanked all the RAC members for critical comments and for providing valuable guidance to the scientists in formulation of the projects and scientific activities. He advised all the scientists to work in a co-ordinated manner and improve their presentations with accurate scientific information.

The Chairperson, Dr. Chandish Ballal, appreciated all RAC members for effective discussion held during the meeting and specifically for offering help and support to the scientists of CSGRC. She re-iterated that the presentation from CSGRC during RCC meeting should be highly focussed. She thanked all members present for their inputs and suggestions.

The meeting ended with thanks to the chair and RAC members.



Dr. Chandish R. Ballal
Chairperson, RAC

Annexure-I

**List of participants for the 42nd Meeting of Research Advisory Committee held on
24/02/2022**

1. **Dr. Chandish R. Ballal**, Former Director, NBAIR, Bengaluru, Chairperson, RAC.
2. Dr. Anitha Kodaru, Principal Scientist, NBPGR, Hyderabad, Member RAC.
3. Dr. P.E. Rajasekharan, Professor, ICAR-IIHR, Bengaluru, Member RAC.
4. Dr. Manjunath Gowda, Professor, UAS, GKVK, Bengaluru, Member RAC.
5. Dr. Ravindra Singh, Scientist-D (Rtd), Central Silk Board, Member RAC.
6. Dr. Modhumita Dasgupta, Scientist-G, ICFRE, Coimbatore, Member RAC
7. Dr. V. Sivaprasad (Director Tech), CSB, Bengaluru, Member RAC
8. Dr. B.T. Sreenivasa, Director, CSGRC, Hosur, Member Convener RAC
9. Dr. G. Ravikumar, Scientist-D & Head, Mulberry Division, CSGRC, Hosur
10. Dr. M. Maheshwari, Scientist-D & Head, Silkworm & PMCE Division, CSGRC, Hosur
11. Dr. Jameela Khatoon, Scientist-D (R&S), CSGRC, Hosur
12. Dr. G. Lokesh, Scientist-D, CSGRC, Hosur
13. Dr. K.M. Ponnuvel, Scientist-D, SBRL, Kodathi
14. Sh. S. Nazeer Ahmed Sahab, Scientist-D, RCS, Central Silk Board
15. Dr. Ritwika Sur Chaudhuri, Scientist-C, CSGRC, Hosur
16. Dr. Tulsi Naik, Scientist-C, SBRL, Kodathi
17. Dr. G. Thanavendan, Scientist-C, CSGRC, Hosur
18. Dr. M.C. Thriveni, Scientist-B, CSGRC, Hosur
19. Shri. Raju Mondal, Scientist-B, CSGRC, Hosur
20. Shri. S. Sekar A.D (Comp), CSGRC, Hosur